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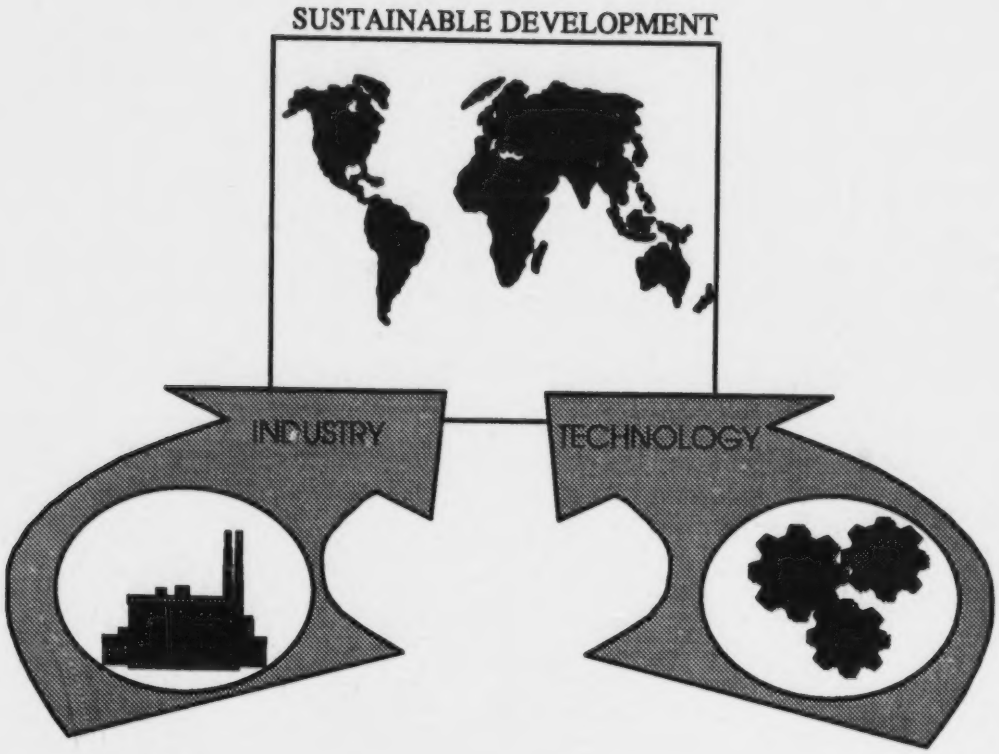
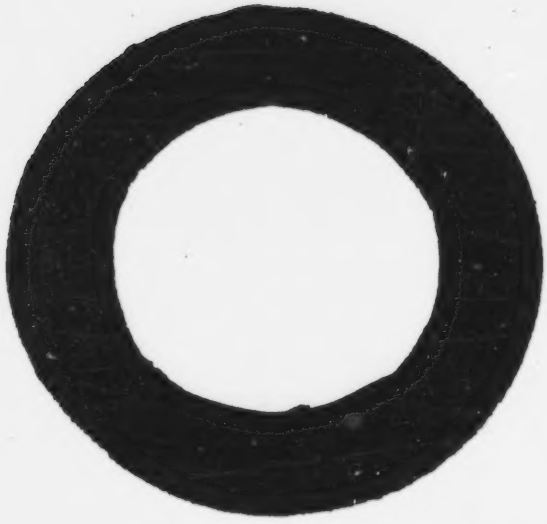



NEW YORK
JUNE 1992



UNITED NATIONS

Press Release
Department of Public Information ♦ News Coverage Service ♦ New York

TNC/504
25 February 1992

**Press Announcement**

# UN STUDY ON CLIMATE CHANGE AND TRANSNATIONAL COMPANIES CALLS FOR CHANGES IN TECHNICAL PROCESS, INVESTMENT PATTERNS TO AVOID CATASTROPHE

NEW YORK, 24 February (UN Centre on Transnational Corporations) --Transnational corporations operating in the oil production business, road transportation, chlorofluorocarbon (CFC) production, electricity generation, energy-intensive metals production and agriculture account for roughly 50 per cent of all emissions of greenhouse gases, according to a study just published by the United Nations Centre on Transnational Corporations.

The problem of global warming and the dangers it presents are being given high priority by the international community. In New York, discussions are currently under way for an international convention on global climate change. Ultimately, Governments, citizens, international organizations and private industry must all participate in reducing emissions.

Focusing on six transnational energy-producing and energy-consuming sectors, the study -- Climate Change and Transnational Corporations: Analysis and Trends (Sales No. E.91.II.A.) -- concludes that major changes in technical processes and investment patterns will be necessary if catastrophic environmental changes are to be avoided. Each of the sectors --fossil fuel production, transportation, electricity-generation, energy-intensive metals production, CFCs and other ozone-depleting chemicals, and inorganic nitrogen fertilizers -- has direct and major impacts on the greenhouse gases that affect global climate change.

The calculations in the study reflect the degree of transnational involvement in each sector, and are designed to indicate an order of magnitude of emissions which could be affected by measures taken by transnational corporations, whether self-initiated or government- mandated. More rigorous data collection is needed, and the study recommends collection of emissions data tied to industrial sectors and firms in addition to nationwide figures. Finally, the study explores

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differential impacts between industrialized and developing countries and examines how each sector could be restructured to limit atmospheric damage.

Leaks during natural gas production, leaks from coal mines and from venting at the oil well-head are problems that can be remedied. The transportation sector is responsible for about 20 per cent of projected global warming, most of it from road vehicles. None the less, in some countries, public transportation has been discouraged, while manufacturers continue to produce automobiles which are far less fuel efficient than available prototypes. CFCs used mainly in refrigeration and electrical appliances contribute at least 15 per cent of the global warming problem.

World-wide, the production of aluminum, copper and iron consumes over 7 per cent of commercial energy use, while aluminum alone consumes 7 per cent of all industrial electricity. In electricity-generation, plant designs have inappropriately placed priority on size rather than efficiency. Cogeneration, the simultaneous generation of electricity and heat, has been vastly underutilized and the use of renewable energy sources has been neglected.

Inorganic fertilizers account for about 5 per cent of global warming because of energy use in producing them and because of the nitrous oxide which is released through their use. So as to achieve rapid increases in food production, Governments and transnational corporations have tended to promote overuse of both fertilizers and pesticides.

Restructuring the energy sector will be a vital element in limiting global climate change and ozone depletion, the study says. The long-run objective should be to convert from fossil-fuel energy to the use of alternative, renewable safe energy. But in the near term, improvements in the way vehicles are used and built, for example, would significantly alleviate present emission levels. Governments should encourage the use of railways and public transport.

The study recommends generating electricity through renewable energy sources -- such as biomass, hydropower, solar technologies, wind energy and geothermal energy -- whenever possible. Power planning models should focus on conserving energy, rather than merely on maximizing supply. In using fossil fuels, natural gas should be used over oil and coal. The study concludes with policy recommendations appropriate to the development of international agreements.

Transnational companies cannot be expected to change their practices on their own, says the study. By creating new standards and incentives, Governments must establish a regulatory and economic environment supportive of a sustainable industrial production.

UNITED NATIONS

**Press Announcement**

## NEW STUDY ON TRANSNATIONAL CORPORATIONS AND ENVIRONMENTAL LAW

NEW YORK, March 30. Emerging international legal instruments on environment will have increasing impact on the activities and operations of transnational corporations, according to a new study being released today in its prepublication form by the United Nations Department of Economic and Social Development.

The report surveys recent developments in environmental law and policy at the international and regional level. The study concludes that the activity in this area, although uneven, has produced instruments increasingly detailed in their specificity and standards which are more stringent in their effect. The trend is indicated by the highly developed, comprehensive and detailed rules of European Community environmental law, which grew out of a trade and economic treaty.

Policies with actual or potential impact on transnational corporations are growing. Outright prohibitions on certain trade has increased, ranging from prohibitions on the production and use of certain ozone depleting chemicals with the Montreal Protocol, the ban of exports to Africa of substances prohibited by the exporting country in the 1991 regional Bamako Convention, to the recent ban on all commercial activity relating to mineral exploitation in the Antarctica.

The international use of statutory protections, although falling short of full prohibitions, are increasing relating to a wide range of activities which impact on transnational corporate activities: quality standards, dealer licensing, product registration, industrial activity authorization, packaging and labelling, transportation, advertising, and imminently, accounting. Civil liability for environmental and other damage is included in a growing number of international instruments. The obligation to disclose, relating to the growing rules on public right of access to environmental information is set to increase.

Although developments in global and regional environmental law have not yet led to the widespread adoption by developed and developing countries of internationally harmonized minimum standards, the trend towards integration of environmental concerns into mainstream international economic and trade law and polity may ultimately point to this result.

The recent UNCTC Benchmark Corporate Environmental Survey concluded that transnational corporations were often unaware of international and regional policy instruments that could or even would affect their operations. This study is aimed at helping to provide this necessary information and assist transnational corporations and international organizations fulfill legal and ethical obligations with respect to the wide range of existing and emerging environmental instruments and policies.

Prepublication advance unedited copies of the study are available from the Division on Transnational Corporations and Management, Room DC2-1205, DESD, 2 UN Plaza, 963-3162.

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Transnational Corporation and Management Division
United Nations Department of Economic and Social Development

# Future Work on Environment

# by the

# Transnational Corporations and Management Division

## Case Studies on Innovative Corporate Environmental Management

*Project Objectives*

Long-term Objectives

* to channel international investment along a sustainable development path;

* to promote sustainable growth and development in host developing countries as they are affected by the activities of transnational corporations.

Immediate Objectives

* to increase the understanding by host governments of environmental management and industrial health and safety protection;

* to strengthen the negotiating capacity of host developing country officials to deal effectively and knowledgeably with transnational corporations in their management of environmental, health and safety issues;

* to identify the environmental legislation which influences corporate environmental behaviour in developing countries;

* to influence transnational corporations to behave in a more environmentally sustainable manner through changes in management behavior and changes in investment and technological decision, while, at the same time, mobilizing them to participate more fully in the process towards sustainable economic activity on a global level.

*Research Strategy*

From the firms that have responded to the Benchmark Survey, a small number of respondents with innovative environmental management programmes will be chosen for in-depth study. Interviews with these firms will be conducted at corporate headquarters and affiliates in developing countries. Based on the interviews, the research teams will develop the case studies which will seek to determine the level of compliance of headquarter policies at the level of the subsidiary. Approximately 6-8 independent assessments, one to represent each management model, will be the result of the study.

The research strategy involves four basic steps. First, the definition of the environmental management model will be refined after selection of the firms for indepth study, based in part on their policy statements. Next, a detailed review will be conducted of notes from the first phase. Third, additional data on the corporations will be collected mainly through watchdog environmental organizations. Finally, field interviews will be

conducted at corporate headquarters and affiliates to determine how problems are managed and directives are carried out at the enterprise level.

Each management model will be developed into a case study. The purpose of the case studies will be to provide host developing country officials with a concept of what they may expect from the most environmentally sensitive transnational corporations.

A policy document will be developed out of the case studies. This document will outline which national policies, laws, and regulations appear to be most effective in influencing corporate environmental behaviour in developing countries. It will contain policy implications based on these findings.

Four regional workshops will be held in Africa, Asia, East Europe and Latin America. In these workshops, the case studies and policy document will be used as background material to educate officials responsible for environmental protection on the most advanced environmental management techniques and on environmental legislation that has been found effective in influencing corporate behaviour.

# TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGIES

## Summary of Work Plan beyond UNCED 1992

The first phase of the project on Options to Facilitate Transfer of Environmentally Sound Technologies to Developing Countries under Favorable Terms produced a set of revenue-generating technology transfer mechanisms. In view of the growing environmentally sound technology needs in the developing countries as well as in the countries-in-transition, it is necessary to enable tangible manifestations of the information produced by the project beyond the theoretical. To this end, a Phase II for the project has been designed in which the researched mechanisms will be applied in the field through pilot projects in four developing countries.

Phase II is designed around three stages of activities. In the first stage the project will conduct in depth research on the existing applications of the environmentally sound technology transfer mechanisms primarily in the industrialized countries. The analysis in this stage will include information on the institutional arrangements that were necessary to successfully apply the mechanisms, the financial and social costs and benefits, as well as the specific roles played by governmental authorities, foreign and local industries, community groups and international organizations.

The second stage of Phase II will review the feasibility of implementing the researched mechanisms in developing countries by surveying and interviewing representatives from government, industry and community groups. This stage will help identify the existing technological capabilities and limitations in the context of a selected number of developing countries. The process will also help select the pilot project countries for the third stage of activities and identify the preliminary set of technology transfer mechanisms most applicable to the selected pilot project countries.

The third and final stage will start pilot projects in four developing countries. The pilot projects aim to design country specific mixes of environmentally sound technology transfer mechanisms. Each pilot project will focus on a selected industrial sector and a specific technological aspect within the sector. The process of the pilot project will bring together the relevant local actors and mediate negotiation of innovative mechanisms applicable to the selected countries' specific needs, priorities, capabilities as well as environmental and economic goals.

The value added from the Phase II is two-fold:

(i) to demonstrate that environmentally sound technologies can be successfully transferred between countries and industries without huge additionalities incurred on either side. The success is based on the right combination of actors and instruments brought together with adequate information for informed and proactive decision-making

process.

(ii) to produce successful case-studies which can be made available in print for the use of developing country governments as well as other relevant actors of involved in environmentally sound technology transfer transactions. This outcome will take the form of a publication tentatively titled **State of Environmentally Sound Technology Transfers in the Developing Countries**. The first such report will appear in early 1995.

The publication as well as Phase II is planned as on-going activities. The three stages of Phase II will focus on four new sets of developing countries every two years based on the success rate of the first attempt. The publication will provide the results of the pilot projects at the end of each two-year period of applications.

Phase II is currently scheduled to start in September 1992, upon completion of negotiations for funding.

# INVESTMENT AND TRADE EFFECTS OF ENVIRONMENTAL REGULATIONS

## A Project Proposal for post-UNCED

The potential effects of environmental regulations throughout the world and especially in the industrialized countries on the trade and investment patterns of developing countries have been receiving increasing attention in the international and national agendas. This issue deserves singular attention not only due to the already problematic circumstances of developing country trade and investment patterns but also due to the significant correlation between poverty and environmental degradation. The latter junction needs solutions that emphasize environmentally sustainable economic growth especially in the developing countries.

Sustainable economic growth requires proactive decision-making which in turn depends on the availability of information that enables readiness for the potential outcomes. Such information, especially that focus on the trade and environment aspect, is largely lacking and available at best in fragments. In order to assist the process of gathering such information and provide it in a useful decision-making format a project proposal has been prepared for consideration by various international organizations and national governments.

The project focusses on three potential impacts of environmental regulations. These are: conditionality effects, substitution effects and needs for standardizing environmental regulations at the regional and international levels.

Environmental conditionalities refer to product and process requirements on environmental bases which can deter trade unless the conditions are met. Dolphin safe tuna fishing is one such conditionality that has emerged between the United States and Mexico. Substitutions refer to products and processes which are no longer traded as much due to technological improvements that highlight other economically (and recently environmentally) more beneficial products and processes. Substitutions alter trade by eliminating market shares for some sectors and opening the same for others. Environmental requirements under the Montreal Protocol is now in the process of seeking safe substitutes for ozone depleting substances which is already affecting economic decisions in countries that ratified the Protocol.

Standardization needs emerged as a result of growing and highly variable national environmental health and safety, pollution, toxicity and waste standards. Although growing national attention to environmental aspects of human activities is a positive and celebrated fact, the national variance is causing a great deal of confusion among the local and foreign investors as well as in diplomatic relationships between countries. In fact, standardization of environmental regulations and requirements is a top agenda item in those instances of regional integration such as the European Community and the North American Free Trade Agreement.

The proposed project suggests a sectorial research focus. The current format suggests project plans that focus on the mining and automotive sectors. Under the mining sector, for example, the project proposes to look at the possible environmental conditionalities and substitutions that can affect trade between importing industrialized countries and exporting developing countries. The relevant environmental regulations, both existing and planned, in the importing industrialized countries are analyzed with a view to finding how they would change mining exports from the corresponding developing country exporters. Developing country businesses and governmental authorities are interviewed to assess country readiness to overcome the potential negative effects as well as to take advantage of potential new or re-opened markets. The research outcome would be a set of concrete recommendations on increasing country readiness and preparedness for possible adverse changes in trade and investment strategies.

The project format proposes numerous fora through which the collected and processed information will be made available to the interested parties. Among these are workshops, regional seminars, printed material as well as technical assistance to countries which need further help in adapting the available information to their specific circumstances and needs.

This project proposal is currently under review by United Nations agencies as well as other international organizations for possible funding and coordinated undertaking.

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Transnational Corporation and Management Division
United Nations Department of Economic and Social Development

# Other Work on the Environment

## TECHNICAL ASSISTANCE AND RELATED ACTIVITIES IN THE FIELD OF TRANSNATIONAL CORPORATIONS AND THE ENVIRONMENT

*In addition to undertaking numerous environment oriented research and policy development activities, the Transnational Corporations and Management Division (TCMD) provides technical assistance to developing countries in all matters pertaining to transnational corporations. Thus, TCMD has over the years undertaken a wide range of technical assistance and related activities on foreign investment and industrialization, in which the adoption of environmental safeguards has been a predominant concern. Some of the more recent activities in this area include:*

- Contributions to international efforts to establish environmental protection standards, such as: the Nordic Conference on Environment and Development (Stockholm, 1987); the World Conference on Chemical Accidents (Rome, 1987); the Work of OECD on multinational enterprises and hazardous installations in developing countries, and finally, the preparations towards the UN Conference on Environment and Development (Rio,1992);

- Activities under the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (ISAR) aimed at establishing international standards for environmental accounting, such as: an international survey of corporate reporting practices with respect to environmental disclosures; a review of the environmental accounting literature, and the development of a bibliography on environmental accounting and disclosure;

- Technical assistance to the Governments of Chile (Ministry of Mines) and Ecuador (Ministry of Energy and Mines) on legal issues related to environmentally sound use of natural resources (1991);

- Technical assistance to the Government of Guinea in the preparation of environmental legislation (1989);

- Technical assistance to the Government of Grenada on environmental protection in the mining sector (1988);

- Technical assistance to the Government of Colombia in the development of an environmental legislation and administration.

- Preparation and periodic review of the Consolidated List of products whose consumption and/or sale have been banned, withdrawn, severely restricted or not approved by Governments (to date).

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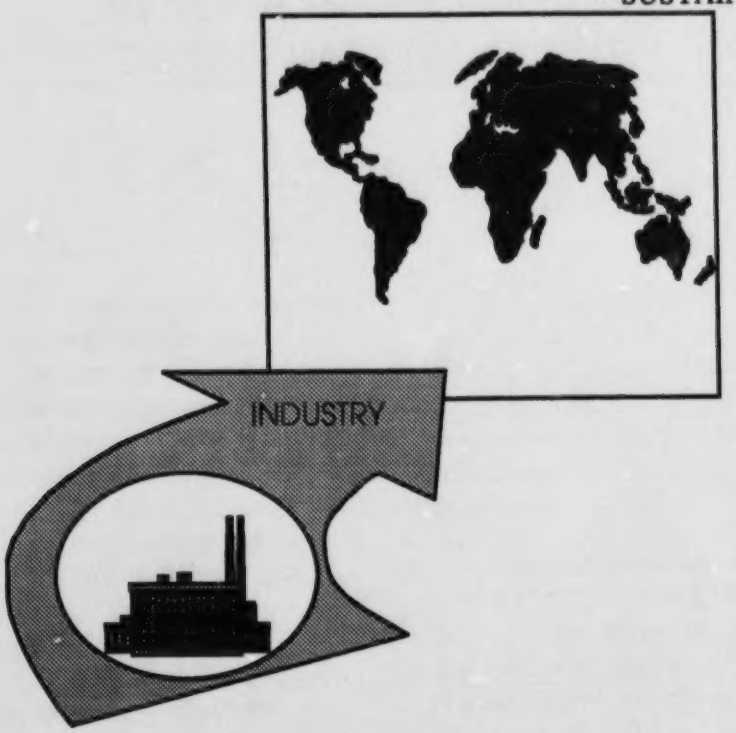
# SUMMARY OF

# BENCHMARK CORPORATE ENVIRONMENTAL SURVEY

SUSTAINABLE DEVELOPMENT




NEW YORK
JUNE 1992

# BENCHMARK CORPORATE ENVIRONMENTAL SURVEY

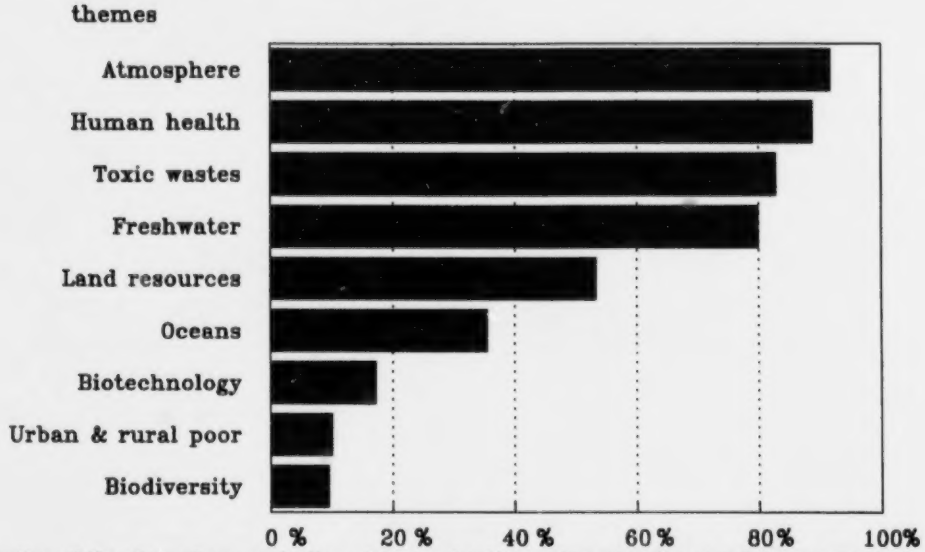
The final results of the Benchmark Corporate Environmental Survey will be coming out later this year as a sales document. The report will present the final statistical results of the Benchmark Survey together with excerpts of policy statements of the participating firms. The results will be classified as sections under the themes of the three Working Groups of the United Nations Conference on Environment and Development (UNCED) and an environmental management section.

The United Nations Centre on Transnational Corporations within the Division for Transnational Corporations and Management, undertook the Benchmark Survey in order to measure the current state of affairs with respect to corporate environmental management. The objective of the Benchmark Survey is to describe the current state of international corporate environmental management and to document the most advanced corporate environmental practices.

This publication summarizes some of the findings of the Benchmark Survey with respect to recent developments by the participating firms in their environmental management policies and practices as reported by them. It also includes graphs presenting some of the statistical results of the Benchmark Survey. The graphs highlight the importance attached by the responding firms to the UNCED themes, the role envisaged by them for the United Nations, the trends in corporate environmental

No.1

## Relative importance of UNCED themes to survey respondents




**Protection of the atmosphere, protection of human health, environmentally sound management of toxic wastes, protection of freshwater supplies & of land resources were among the top five UNCED themes selected by the majority of the Benchmark Survey respondents.**

policies, the reasons for creating a corporate environmental policy and the importance of the developing country issues for corporate respondents.

A significant transformation has occurred in the corporate management of environmental and occupational hazards during the last decade, particularly among transnational corporations. Driven by regulatory mandates, public pressure and the growing awareness that sound environmental management is good business, transnational corporations have applied their superior financial, technical and management expertise to a wide array of environmental challenges.

Respondents to the Benchmark Survey view their corporations' role in protecting and enhancing the environment in a variety of ways and they formalized such commitments in policy statements intended to guide action throughout the organization. The responses suggested that environmental and occupational concerns are important components of the transnationals' identities, although many of the policy statements consisted of rather general corporate principles. These statements, however, documented the corporations' fundamental attitudes and activities *vis-à-vis* the environment.

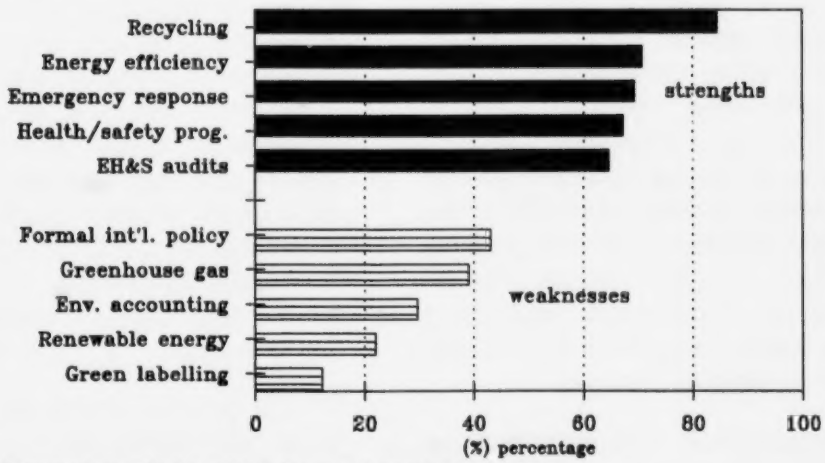
The Benchmark Survey found that in many instances, the principles of a particular corporation were first communicated to the staff as circulars, and were then included in brochures/annual reports intended for the public. Somewhat less than half of the responding firms have drawn up guidelines for a corporate environmental policy. These policies mostly expressed the corporations' own views of environmental protection, emphasizing the recognition of responsibility for the environment as a basic prerequisite of a corporate policy guaranteed in the long term.

Awareness of sustainable development and environmental management manifested itself in a number of ways. Corporations make sure that their products and commodities are environmentally friendly. They strive to minimize the effect of their production processes and overall business activities on the environment. They are active in developing pollution prevention and control equipment and are becoming active in developing health and safety training programmes for themselves and for use by other companies. They fulfil their social responsibilities with respect to the disposal of wastes and recycling. They undertake and foster protection of natural resources, forests and marine resources.

The respondents supported their claims to improvements of environmental health and safety with numerous examples of accomplishments and programmes, both recent and on-going and to a lesser extent with agendas for

No.2

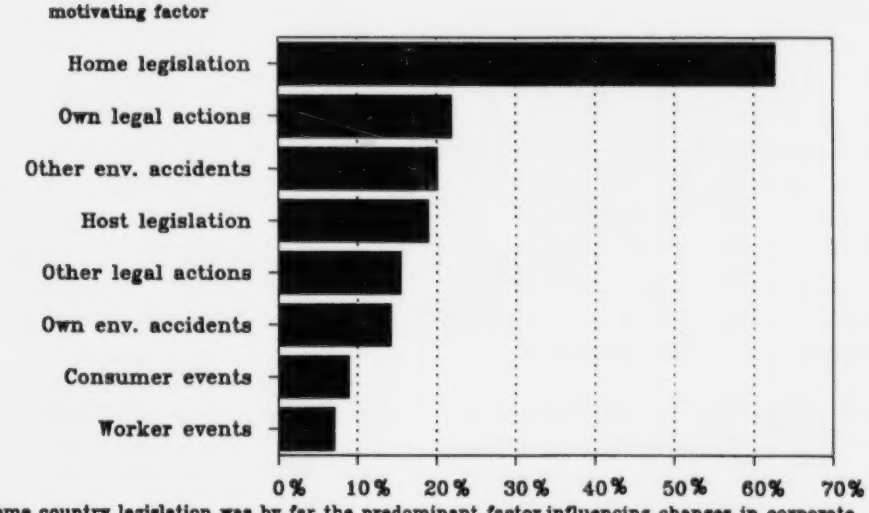
## Environmental management: strengths and weaknesses




**Environmental policies which have a financial gain or a longer regulatory history appeared more widespread among the responding firms than purely environmental policies.**

No.3

## Factors influencing change in corporate environmental policies & programmes




**Home country legislation was by far the predominant factor influencing changes in corporate environmental policies and programmes.**

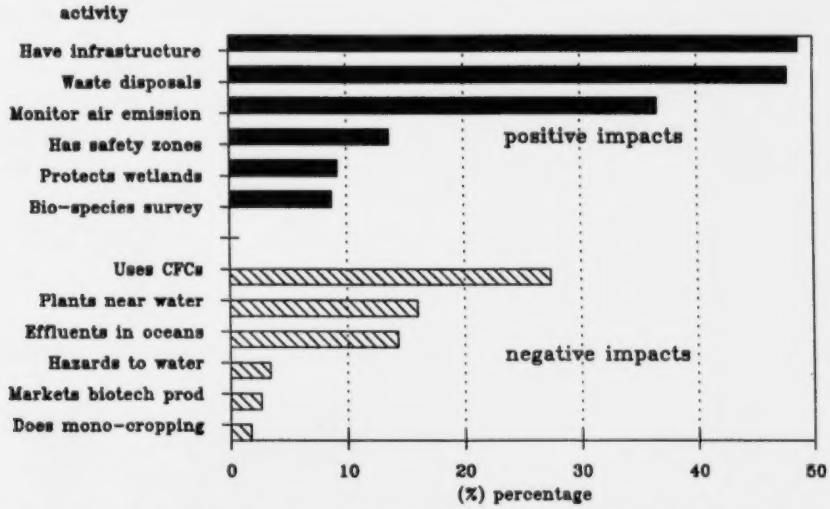
the future. These drew heavily on widely publicized technical objectives such as waste management and minimization, reduction and elimination of CFCs, PCBs, or asbestos, recycling and pollution control. In these areas, most respondents seemed to have set target dates and numerical targets for reduction or elimination. The main avenues for bringing about these improvements are new technologies. Changes geared toward environmental protection in the production process or in the products themselves are given priority; the organizational or personnel aspects to achieve these changes are subordinate to the technological changes.

Transnational corporations have generally responded to public scrutiny and expectations by establishing environmental, health and safety organizations. The responsibility for carrying out environmental management is put on business line with facility managers playing a role. Although only a minority of the responding firms have put a person responsible for the environment in the Board of Directors, it is not uncommon to find corporate officers among the key elements of this organization. Clearly, transnational corporations recognize the pivotal role of corporate involvement in achieving a high environmental, health and safety performance.

In general, transnational corporations have responded to public and institutional pressures. Although

No.4

Transnational corporations and developing country issues




Developing country issues are not high in the agenda of the international business community.

sometimes these may be largely superficial changes, there are indications that environmental health and safety considerations have been incorporated into the corporate identity and that the link between these considerations and the business objectives is increasingly recognized. At the same time, there is an absence of any references to sustainable development in the policy statements. The language and the focus on issues which have captured public attention indicate that the corporations are followers and not leaders of the social agenda in the environmental health and safety areas.

The preliminary statistical results of the Benchmark Survey have been presented to the Third Session of the UNCED Preparatory Committee. Information from the respondents' corporate policy statements was used to develop the Executive Director's Recommendations which influenced the drafting of Agenda 21 on the role of industry. Finally, the results of the Benchmark Survey were cited in the international press and by a number of non-governmental organizations.

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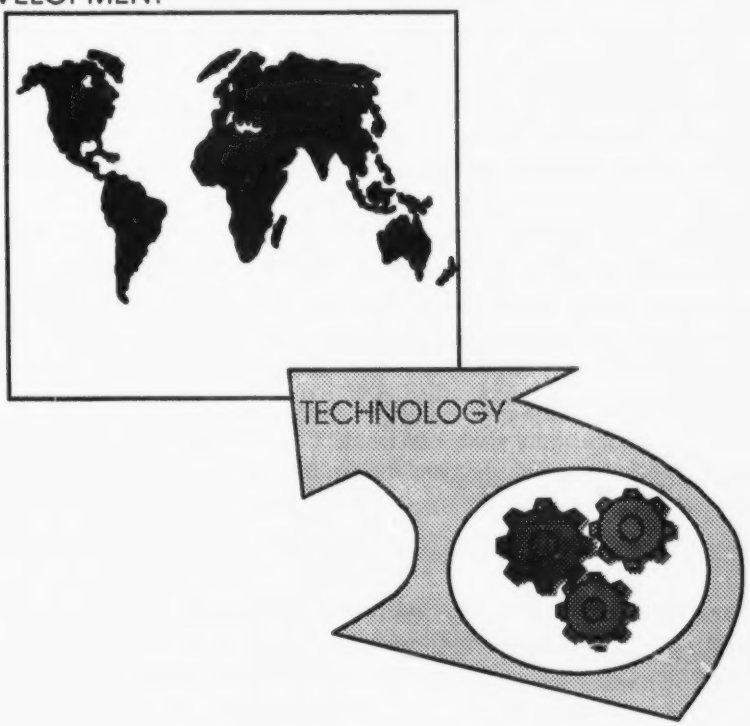
United Nations Department of Economic and Social Development

# SUMMARIES OF OPTIONS TO FACILITATE TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGIES TO DEVELOPING COUNTRIES UNDER FAVORABLE TERMS

SUSTAINABLE DEVELOPMENT




NEW YORK
JUNE 1992

## INTRODUCTION

Environmentally sound technologies are vital in utilizing nature's productive capacity while, at the same time, maintaining the ecological balance and the developmental aspirations of both current and future generations. This was observed by the 44th UN General Assembly when it called for a United Nations Conference on Environment and Development in 1992. (GA res. 44/228, para 15(m))

In response, UNCTC undertook the project on Options to Facilitate Transfer of Environmentally Sound Technologies to Developing Countries on Favourable Terms (Options... from hereinafter) in order to formulate market and regulatory policy options which can overcome the barriers to greater transfer, use and development of environmentally sound technologies. Given the world financial conditions limiting what can be done merely through the traditional financial resources such as official development assistance (ODA), the new policies need to be "innovative." Efforts aiming to break the current financial straight-jacket requires new perspectives that highlight and enable raising new "revenues" whether as currency, in-kind or both, to supplement existing resources. Furthermore, the new measures must actively engage all related actors (including developing and industrialized country governments, national and international businesses, non-governmental organizations as well as institutions with academic and/or policy focus) and enable better use of the financial and technological strengths of the industry, including transnational corporations, in service of sustainable development.

The project focussed on policy options under six groups: new global revenue sources; innovative market mechanisms; investment and trade inducements; tax and tariff systems; and, improvements on the traditional development assistance. Each option was first treated separately and then in mixes. Executive summaries on each option covered the benefits and dis-advantages, requirements for effective implementation, role and contribution of large business entities such as transnational corporations, the fora where the option can be successfully negotiated and the applicability of the option to UNCED themes. The mixes emerged from the conviction that the true strengths of the options are more apparent when they are implemented simultaneously; that is, for example, tax incentives for sounder technologies are more effective when implemented together with tax disincentives for environmentally hazardous technologies.

The mixes as well as the individual options are proposed as abstract "blueprints" which governments, should they wish, can adapt to the particulars of national needs, priorities and capabilities. The project's Phase II will be running pilot-projects that test the options within the specific realities of 4 developing countries.

Some of the options are summarized below. Also available are tables that indicate which options are most applicable to specific UNCED themes. For more detailed information on the Options... please contact: TCMD, Two U.N. Plaza, Room 1108, New York, NY, 10017, U.S.A.

## IMPLICATIONS FOR MAJOR THEMES OF UNCED

In order to better focus the efforts towards sustainable development both during and after the Rio Conference, the UNCED process has identified 10 major themes. As a cross-sectoral issue, transfer of technology is relevant to all of the themes but in varying degrees.

The Options... undertaken by UNCTC provides to the Conference, and to the sustainable development process, a set of instruments that could help resolve the additional demands expected to be placed on the limited global financial resources. These demands, often referred to as the additionality issue, can be extremely high in the context of increasing developing country access to environmentally sounder technologies. The latter, especially when they are relevant to industrial technologies, are products of immense research and development efforts and thus command high costs both in terms of hard and soft technologies. Consequently there is need to formulate new and innovative methods to enhance such transfers without letting the cost and additionality issues become barriers to urgently needed technological improvements in developing country industrial processes.

The preliminary results of the project have been published in two Packets which have been made available to governments, international organizations and other parties in the course of the last year. Summaries of the options have also been provided to the Fourth UNCED Preparatory Committee.

Based on the findings of the project, a tabular presentations were prepared to show the degree of applicability of each of the options to the 10 themes identified by UNCED. Applicability degree was distributed on a scale of 1 to 5; a degree of 5 indicating very high applicability while a degree of 1 indicating negligible effect. The exercise of preparing the tables aimed to arrive at clear policy directions along the well defined lines of environmental themes. These in turn will help determine what types of projects are best to undertake by the various national governments and international organizations in the post-Rio years.

The following table presents the consolidated results focussing on the high applicability end of the range. Each option is entered into the tables in an abbreviated form; full titles of the options precede the table. To see the full distribution of degree of application for each option, please refer to the draft papers in Packets 1 and 2 of the Options.... or the volume to be published, post-Rio, on **Transfer of Environmentally Sound Technologies to Developing Countries** (expected publication date September 1992).

| Abbreviation used | Full Title |
|---|---|
| **Pollution Permits** | A System of Environmental Premiums Based on Leasable or Tradeable Pollution Permits |
| **Carbon/GHG tax** | Creating a System to Utilize Revenues from a Global Carbon or Greenhouse Gas Tax |
| **Offset Investments** | International Environmental Offset Investment Programmes |
| **Debt-for-nature** | Debt-for-Nature Swap Programmes |
| **Standards** | Raising global demand for environmentally sound technology by agreeing to international health and safety standards on a range of existing technologies |
| **Clearing-houses** | Developing international information clearing-houses and technology transfer agencies |
| **ESTRB** | Transferring patent rights for sound technologies to an international organization |
| **Export Restraints** | Adopting export constraints on environmentally hazardous technologies |
| **Income Repatriation** | Arrangements Relaxing the Limitations on the Repatriation of Income Derived from Environmentally Sound Technologies Used in Developing Countries |
| **Anti-monopoly Controls** | Creating an International Centre to Settle Investment Disputes Regarding Environmentally Sound Technology Transfers |
| **Tax Incentives** | Creating Tax Incentives for Transfer or Use of Environmentally Sound Technologies in Developing Countries |
| **Tariff Incentives** | Creating Tariff Incentives for Transfer or Use of Environmentally Sound Technologies |
| **Tax Disincentives** | Tax Disincentives to Restrain the use of Environmentally Hazardous Technologies |
| **Tariff Disincentives** | Creating Tariff barriers to Reduce Trade in Environmentally Hazardous Technologies |

| Major Themes of UNCED | Highly applicable methods | Applicable methods |
|---|---|---|
| **PROTECTION OF THE ATMOSPHERE** | | |
| **Climate change** | Pollution Permits<br>Carbon/GHG Tax<br>Tax Incentives<br>Tariff Incentives<br>Clearing-houses<br>ESTRB | Offset Investments<br>Income Repatriation<br>Tax Disincentives<br>Anti-monopoly Controls |
| **Ozone Depletion** | Carbon/GHG tax<br>Tax Incentives<br>Tariff Incentives<br>Tax Disincentives<br>Tariff Disincentives<br>Clearing-houses<br>ESTRB | Offset Investments<br>Income Repatriation<br>Anti-monopoly Controls |
| | | |
| **Transboundary Air Pollution** | Pollution Permits<br>Carbon/GHG Tax<br>Offset Investments<br>Tax incentives<br>Tariff Incentives<br>Clearing-houses<br>ESTRB | Income Repatriation<br>Tax Disincentives<br>Tariff Disincentives<br>Anti-monopoly Controls |
| **LAND RESOURCES** | | |
| **Deforestation** | Offset Investments<br>Debt-for-nature | Pollution Permits<br>Carbon/GHG Tax<br>Income Repatriation<br>Tax Disincentives<br>Tariff Disincentives |
| **Soil Loss** | | Offset Investments<br>Debt-for-nature<br>Income Repatriation<br>Tax incentives<br>Tariff Incentives<br>Tax Disincentives<br>Tariff Disincentives |

| | | |
|---|---|---|
| **Desertification and Drought** | | Offset Investments<br>Debt-for-nature |
| **CONSERVATION OF BIODIVERSITY** | Debt-for-nature | Offset Investments<br>Clearing-houses<br>ESTRB |
| **ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY** | Anti-monopoly Controls<br>Clearing-houses | ESTRB |
| **PROTECTION OF THE OCEANS** | | |
| **Global Aspects of Marine Pollution** | Offset Investments<br>Clearing-houses | Tax Disincentives<br>Tariff disincentives |
| **Regional Seas and Coastal Areas** | Offset Investments | Pollution Permits<br>Income Repatriation<br>Anti-monopoly Controls<br>Tax incentives<br>Tariff Incentives<br>Tax Disincentives<br>Tariff Disincentives<br>Clearing-houses<br>ESTRB |
| **Rational use and Development of Living Marine Resources** | ESTRB | |
| **PROTECTION OF FRESH WATER RESOURCES** | Offset Investments<br>Tax incentives<br>Tariff Incentives<br>ESTRB | Debt-for-nature<br>Income Repatriation<br>Anti-monopoly Controls<br>Tax Disincentives<br>Tariff Disincentives<br>Clearing-houses |
| **ENVIRONMENTALLY SOUND MANAGEMENT OF WASTES, PARTICULARLY HAZARDOUS WASTE** | Tax Disincentives<br>Tariff Disincentives<br>Clearing-houses<br>ESTRB | Offset Investments<br>Income Repatriation<br>Anti-monopoly controls<br>Tax Incentives<br>Tariff Incentives |

| | | |
|---|---|---|
| **ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS** | Tax Incentives<br>Tax Disincentives<br>Tariff Incentives<br>Tariff Disincentives<br>Anti-monopoly controls<br>Clearing-houses<br>ESTRB | Income Repatriation |
| **PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS AND WASTES** | Tariff Disincentives | Tax Disincentives |
| **PREVENTION OF URBAN POVERTY** | | Clearing-houses |

## A SYSTEM OF ENVIRONMENTAL PREMIUMS BASED ON LEASABLE OR TRADEABLE POLLUTION PERMITS

Pollution permits are assigned to countries or to industries within countries based on specified emission reduction targets. The recipients of the permits are then allowed to trade their rights in an open market. Premiums on the purchase and trade of permits would then raise revenues which could be allocated for technological improvements including transfers of sounder alternatives, technical education and training, research and development, and national technological capacity building. Pollution permits have been in use in a number of industrialized and newly industrialized countries although premiums on permits is relatively new twist.

The system's greatest advantage is its efficiency as a market based framework and its need for few, if any, new or additional bureaucracies. Its disadvantages include problems in equitable distribution of the permits; monitoring and verifying pollution levels; and ethical issues raised in connection with sanctioning environmental pollution by making it a purchasable right. For effective implementation the system requires (i) fairly sophisticated methods to monitor emissions, evaluate costs and collect fees especially if the system is implemented at regional or international levels, and (ii) flexibility to respond to changing environmental and economic circumstances.

The system is familiar to corporations and other firms as a market based idea. Their contribution and impact, however, would depend on whether the permits are distributed among firms or among countries. The system, at the international level can be negotiated within the existing frameworks on transboundary pollution. National implementations could draw lessons from the existing applications, in effect since 1975, in the United States of America.

Tabular Summary

| | |
|---|---|
| Type of instrument | pollution permits issued and traded under international agreement |
| Type of adoption | voluntary |
| Applicability | national/ regional/ international |
| Implementing agency | subscribing governments/ market participants |
| Implementation mode | mandatory once adopted |
| Costs to be borne by | subscribing governments, TNCs |

Please see Options..., Packet 1, pp. T1-T12 for complete draft.

## UTILIZING REVENUES FROM A GLOBAL CARBON OR GREENHOUSE GAS TAX

Placing a levy on greenhouse gas emissions or carbon dioxide releases would not only reduce emissions and overall energy demand but the revenues generated by the tax would also provide additional funds that can be used for sound technology transfers, development and use especially in the energy production sector. This option is already in use in Finland, the Netherlands, and Norway. It is under serious consideration in both national and international agendas.

Carbon or GHG taxes require very little administrative structures as countries already have fairly sophisticated national tax collection institutions and relevant legal structures. Furthermore, they are efficient and they distribute financial burdens more equitably among nations and within nations.

Setting the level of the tax seems to be the greatest difficulty in placing GHG or carbon taxes as neither too high nor too low level of tax would produce the desired changes in consumption patterns and generation of revenues. This issue is even more pronounced when considering an international GHG or carbon tax. Other disadvantages include the decelerating revenues (they would decline as environmental goals are achieved), and possible inflationary effects on the economy (rapid price hikes and subsequent ripple effects throughout).

To be effective GHG or carbon taxes would need to be part of comprehensive national and, preferably international, energy policies in order to shift the overall energy direction to renewable sources. Transnational corporations and industry in general would contribute as the tax levels demand. A point to watch for is not to generate sufficient differentials between countries that would allow environmental tax havens. The Framework Climate Convention could be a starting point for an international GHG or carbon tax.

Tabular Summary

| | |
|---|---|
| Type of instrument | internationally agreed tax legislation |
| Type of adoption | voluntary |
| Applicability | international |
| Implementing agency | international agency |
| Implementation mode | mandatory |
| Costs to be borne by | subscribing governments |

Please see Options..., Packet 2, pp. T1-T12 for complete draft.

## INTERNATIONAL ENVIRONMENTAL OFFSET INVESTMENT PROGRAMMES

This is a financial arrangement in which a country invests in environmental abatement, conservation or preservation sectors in another country when it is economically and environmentally more cost effective to do so. As a technology transfer option, the mechanism suggests that industrialized countries invest in sounder technologies in projects in developing countries where continued use of harmful technologies would otherwise undermine the investing country's environmental efforts. Existing examples include offset arrangements between Russia and the Nordic Countries (involving nickel smelters) and between the Netherlands and Latin America (involving reforestation to abate the global effect of additional energy generation).

Offset arrangements strike a balance between domestic needs and global responsibilities and provide for economically and environmentally practical distribution of financial and technological resources between the industrialized and developing countries. They enable "additional" resources without lengthy debates on the additionality issue. However, on the disadvantages side, offset agreements need considerable planning, political commitment, transparency and negotiations under varying national environmental standards. Comparability in regards to the latter seems to be the most important requisite for effective application of this measure to sound technology transfers.

The measure allows considerable contributions from transnational corporations and industry in general in terms of initiating, supporting, promoting and even financing such arrangements through their world-wide networks and technological superiority. Offset agreements are best to be negotiated bilaterally or regionally rather than multi- or internationally. The latter two entities might best contribute as mediators or catalysts in bilateral or regional arrangements.

Tabular Summary

| | |
|---|---|
| Type of instrument | negotiated offset investment programmes |
| Type of adoption | voluntary |
| Applicability | national/ bilateral/ plurilateral/ (TNCs) |
| Implementing agency | national governments/ (TNCs) |
| Implementation mode | voluntary |
| Costs to be borne by | subscribing governments/ (TNCs) |

Please see Options...., Packet 1, pp. T13-T18 for complete draft.

## DEBT-FOR-NATURE SWAPS

Swapping debt in return for preservation and conservation of nature responds to the conflict between the international debt problem and the worsening environmental conditions especially in the developing world. Swaps were initiated by private groups for commercial debt.

A swap involve the purchase of a portion of the debt in a secondary market for less than its value by an outside group (e.g. an NGO) to generate hard-currency which is agreed to be used for environmental work. The mechanism could be tied into sounder technology acquisition and development.

Although the to-date conversions comprise a small portion of the overall debt of developing countries, the mechanism is promising for the near future. It allows for rapid generation of hard currency and relieves fiscal restraints that impede both environmental and developmental work. Furthermore, each swap enables the greater participation of local NGOs and private groups as well as enhancing their networks with foreign counterparts.

The swaps, however, are not long-term debt relief mechanisms; the currency generated can be inflationary; swap eligibility criteria may tend to omit some high-debt countries where environmental needs are also the greatest; and, the swaps may neglect such factors as national sovereignty and rights of indigenous peoples in areas covered by swaps.

Effective use of swaps for sound technology transfers would need a broader approach in terms of eligible countries and simultaneous environmental and developmental work in the entire region where there is a swap-based nature conservation project. Transnational corporations and industry contribution could be enhanced beyond that of a supportive role if tax benefits to debt swaps are arranged. The Global Environmental Facility and other international financial institutions could be the fora to negotiate debt-for-nature swap arrangements and financing.

Tabular Summary

| | |
|---|---|
| Type of instrument | negotiating debt for ecological abatement |
| Type of adoption | voluntary |
| Applicability | bilateral/ plurilateral |
| Implementing agency | subscribing governments/ NGOs/ commercial banks |
| Implementation mode | voluntary |
| Costs to be borne by | national governments/ NGOs/commercial banks/ |

Please see Options...., Packet 1, pp. T19-T32 for a complete draft.

## RAISING GLOBAL DEMAND FOR ENVIRONMENTALLY SOUND TECHNOLOGY BY AGREEING TO INTERNATIONAL HEALTH AND SAFETY STANDARDS ON A RANGE OF EXISTING TECHNOLOGIES

Health and safety standards determine the qualitative and quantitative boundaries for social and economic values that drive environmental preservation and conservation. They are especially important in the case of environmentally sound technologies as there is yet to be an international agreement on what these technologies are, or should be, except for a number of broad descriptions (more energy efficient, less input wasting, recycling more etc.) A universal set of standards specifically on technologies would help reduce uncertainties.

Setting standards can take at least two forms; (i) identifying cut-off points based on what can be done, or (ii) choosing targets based on what should ideally be done. There are numerous examples of standards found in national legislation as well as in some international instruments. These range from emission targets to pollution ceilings, toxicity levels, allowable waste volumes, banned or restricted products and so forth. However, a direct focus on technologies by these instruments is still lacking.

Universalizing standards have the greatest benefit of creating an investment and trade atmosphere in which environmental rules objectives are clearer. Moreover, if sounder technologies were made the global norm for businesses through universal standards the inventory, use, transfer and further development of alternative technologies would tremendously increase. However, the process also has a significant, disadvantage; that is, at least on the short- or medium -term, loss of the competitive edge that emerges from differences between national environmental standards.

While coordinated and active involvement of all relevant international and national organizations is essential to universalizing standards, a more efficient approach might include reinforcing the voluntary use of best available technologies by businesses at the national level and harmonization of existing standards at regional levels.

Tabular Summary

| | |
|---|---|
| Type of instrument | technological standard setting |
| Type of adoption | voluntary |
| Applicability | national/regional/international |
| Implementing agency | national governments/international agencies |
| Implementation mode | mandatory after adoption |
| Costs to be borne by | national governments/international agencies/industry |

Please refer to the up-coming volume on **Transfer of Technology...** for full draft

## ADOPTING EXPORT CONSTRAINTS ON ENVIRONMENTALLY HAZARDOUS TECHNOLOGIES

Neither the technologies used to produce hazardous products nor those with environmentally damaging results on their own are effectively prevented from being traded internationally. A range of measures from unilateral acts to international trade agreements that place enforceable restrictions on the trade of hazardous technologies could fill this gap by establishing the minimum rules to be followed by all public and private bodies involved in the distribution and use of hazardous products and technologies. The net effect would be an increase in the use and trade of environmentally sounder technological alternatives.

Agreements that limit exports of environmental hazards can take various forms: (i) cover products, production technologies, or both; (ii) impose bans, severe restrictions, or restrictions; and, (iii) be imposed unilaterally, bilaterally, regionally or internationally.

Placing export restrictions on technologies would be an environmental policy strategy that aims to reduce the problem at the source rather than at the product end. Additional benefits would be greater transparency in trade reducing further imports of hazardous technologies, and increase in markets of sounder alternatives. On the disadvantages side, bans on some hazardous products and processes without careful and simultaneous implementation of substitution mechanisms could be devastating in those developing countries where the economies are dependent on the existing technologies and have few recourse for quick technological adaptation.

Among the international actors that might help negotiate export restraints on environmental hazards are UNEP, ILO, FAO, OECD, and the GATT. Active and committed involvement of the international and national business communities as well as national governmental and non-governmental representatives would be of particular importance for successful design and implementation.

Tabular Summary

| | |
|---|---|
| Type of instrument | restriction of hazardous technology flows |
| Type of adoption | voluntary |
| Applicability | unilateral/bilateral/regional |
| Implementing agency | governments/regional organizations |
| Implementation mode | mandatory after adoption |
| Costs to be borne by | governments/industries relevant to hazardous technologies |

Please refer to the up-coming volume on **Transfer of Technology...**for full draft

## DEVELOPING INTERNATIONAL INFORMATION CLEARING-HOUSES AND TECHNOLOGY TRANSFER AGENCIES

The existing environmental information systems lack a clear focus on technology networks and are inadequately linked. These deficiencies could be overcome by strengthening national information systems, linked through regional clearing-houses and ultimately through an International Information Clearing-House focussing on sound technologies.

The concept, if combined with Independent Technology Transfer Agencies (ITTAs) based on the private sector and market principles, could significantly increase developing country access to sounder technologies and enable endogenous capability building without large financial burdens. International financing would be necessary only for initial set-up.

The clearing-houses would provide up-to-date and locally applicable assessments of technological needs, available technologies, their sources and the terms under which they may be acquired. The ITTAs would identify the technology originators, recipients and bring them together or technology transfer, and prepare business plans, training and securing the rights to the technologies. After a limited start-up period, the ITTAs would charge fees, under favorable terms, for the services rendered and would become self-sufficient in the long-term.

The benefits of creating a global sound technology information network are obvious. The greatest advantage of the ITTA concept is in involving non transnational corporation sound technology originators (universities, small and medium sized businesses in developing and industrialized countries, and public institutions) in technology transfers. The clearing-house and the marketing agency approaches are based on voluntary participation through regional and international organizations and contributions from governments, multilateral funding agencies and the private sector.

| | |
|---|---|
| Type of instrument | information networks/private sector agencies |
| Type of adoption | voluntary |
| Applicability | national/regional/transnational |
| Implementing agency | national governments/private sector/ international organizations |
| Implementation mode | voluntary |
| Costs to be borne by | industry/international organizations/national governments at start-up/ self-sufficient based on service fees after |

Please refer to the up-coming volume on **Transfer of Technology...**for full draft

## TRANSFERRING PATENT RIGHTS FOR SOUND TECHNOLOGIES TO AN INTERNATIONAL ORGANIZATION

Patent rights payments can be formidable for many developing countries where sounder technological alternatives are most needed. Creating an international organization, such as the environmentally sound technology rights bank (ESTRB), could alleviate the barrier. While, ESTRB makes the technology available to developing countries free of charge or under favorable terms, the technology owner (often based in the industrialized world) would retain exploitative rights to the technology in the industrialized countries maintaining the incentives available to the inventors. ESTRB would primarily focus on small facilities treatment, in-process abatement and efficient manufacturing techniques rather than large projects or investments often undertaken by multilateral agencies and transnational corporations.

The concept would increase the availability of sounder technologies to developing countries and extend the reach of small and medium size technology originators for whom market size is a often a restriction. Through collection of license fees, royalties and dividends from the transactions, ESTRB would also generate ongoing revenues and stand as a self-sustaining institution. Implementation of the concept, however, would have to face a great deal of political resistance that does not favor any changes to the current intellectual property regime except for increasing its protective services.

Although large industrial enterprises such as transnational corporations believe that greater protection of intellectual property rights is more suitable within the social loss and benefit trade-off, they would benefit from ESTRB. It would facilitate third party engagements in various technology transfer arrangements, expand markets for sounder technologies developed by TNCs and reduce TNC expenditures in litigation in search of environmental excellence in the business world.

Tabular Summary

| | |
|---|---|
| Type of instrument | International |
| Type of adoption | voluntary |
| Applicability | international/national/private sector |
| Implementing agency | proposed international technology rights bank |
| Implementation mode | voluntary |
| Costs to be borne by | international organizations/national governments/ private sector |

Please refer to the up-coming volume on **Transfer of Technology...**for full draft

## CREATION OF AN INTERNATIONAL CENTER TO SETTLE INVESTMENT DISPUTES REGARDING ENVIRONMENTALLY SOUND TECHNOLOGY TRANSFERS

Restrictive business practices, such as monopolies, often lead to imperfections and therefore disputes in the international markets. The sound technology sector is not immune to monopolistic tendencies especially because there are only few corporations who can currently afford to conduct R&D on sounder technological alternatives while the demand is expected to grow rapidly. Market restrictions, if not arranged for with foresight, can add to the existing barriers to access of developing countries to sounder technological alternatives. Creation of an international centre to settle such investment disputes as monopolistic behavior could be a proactive approach in this context.

The benefits of creating such a centre are provision of an independent and objective body where possible disputes are resolved, greater fairness in the sound technology sector, and an international forum where sound business practices are further defined and promoted. The Centre, however, may also present some disadvantages. For example, the commitment of the parties to the Centre has to go beyond mere economic advantage lest there may be resistance to "more government control" of businesses or perceptions of infringement on national sovereignty. Furthermore, the Centre's work and decisions would need to be based on a clear understanding of what sound technologies are which is likely to remain elusive or relative at best.

Effective implementation of this option depends on long-term political commitment, and on the chances to reach a binding inter-governmental agreement on sound business practices. Voluntary acts by corporations and other large enterprises may be valuable support. Existing institutions and mechanisms, such as the GATT dispute settlement Panels might be a helpful starting point.

Tabular Summary

| | |
|---|---|
| Type of instrument | international consensus or agreement |
| Type of adoption | voluntary |
| Applicability | international |
| Implementing agency | new international agency |
| Implementation mode | by consent of subscribing parties |
| Costs to be borne by | subscribing governments/ (TNCs) |

Please see Options...., Packet 2, pp. B1-B11 for full draft.

## ARRANGEMENTS RELAXING LIMITATIONS ON THE REPATRIATION OF INCOME DERIVED FROM ENVIRONMENTALLY SOUND TECHNOLOGIES USED IN DEVELOPING COUNTRIES

Also known as profit remittance controls, restrictions on transfer of income by foreign companies and affiliates are frequently used in both developing and industrialized countries depending on the latter's economic priorities, problems and needs. Lowering or eliminating such restrictions in return for transfer and use of environmentally sound technologies can be an incentive for transnational corporations and other businesses to increase their activities in developing, providing and sharing sounder technologies especially with counterparts in the developing countries.

If implemented the option can enhance a business entity's chances of using and transferring sounder technological alternatives in its operations, increase overall competition in developing and marketing sound technologies, provide financial guarantees to investors of sound technologies and help show greater governmental commitment to making sound technologies the national norm rather than an exception. The greatest disadvantage is that income repatriation limitations, in reality, do not singly affect investment decisions of companies as there are many ways of transferring earnings without an actual profit repatriation transaction. Never-the-less, the option's application also leads to loss of hard-currency revenue by the implementing government especially if it had high limits to repatriation of income, and may require a great deal of preparation and coordination with the existing national tax and investment frameworks.

The optimal use of this option is not self-standing but as a part of a mix of options where it can be the factor that tips the balance in favor of the mix as a whole. The role and contribution of transnational corporations and industry in general is of crucial importance in the implementation process as in-house adjustments (licensing, price-fixing etc.) can be extremely counter-productive to the intent of using this option.

Tabular Summary

| | |
|---|---|
| Type of instrument | national legislation or bilateral agreement |
| Type of adoption | voluntary |
| Applicability | national/ bilateral |
| Implementing agency | national agency |
| Implementation mode | mandatory |
| Costs to be borne by | national governments |

Please see Options...., Packet 1, pp. GN1-GN11, for full draft.

## CREATING TAX INCENTIVES FOR TRANSFER OR USE OF ENVIRONMENTALLY SOUND TECHNOLOGIES IN DEVELOPING COUNTRIES

Tax incentive systems that increase use and transfer of environmentally sound technologies, processes and products are a way of using fiscal policy instruments to "reward" environmentally responsible economic behavior. In such a system, a developing country desiring to increase the use of sound technologies in its development efforts would reduce or eliminate relevant taxes normally applicable to foreign investors, if the latter's commercial activities involve transfer of environmentally sound technologies.

Although most countries have some level of tax regulation on the activities of foreign companies, the existing examples relevant to environmental matters appear more on the side of "punishment" for environmentally undesirable economic behavior. Tax-based incentives, including elimination or reduction of foreign investment and sales taxes, deferred taxes, tax holidays, and graded taxation can increase the value of environmental good achieved by businesses.

Tax incentive provisions would send a strong governmental message to foreign investors about commitment to environmental goals; reduce a country's (and therefore national companies') overall cost of new environmentally sound technology purchases; diminish the negative effects of industry on the environment; and, save from expenditures needed to fulfill national and/or international environmental norms and standards. However, tax incentives often mean loss of government revenue, additional government subsidies for particular industrial sectors and fundamental criticism from environmental groups for off-loading environmental problems solely to the market. Effective implementation may require financial and technical support of international and regional organizations and careful integration of the tax incentives into the national tax and investment frameworks.

Tabular Summary

| | |
|---|---|
| Type of instrument | national or regional tax legislation |
| Type of adoption | voluntary |
| Applicability | national/regional |
| Implementing agency | governments/ regional intergovernmental organizations |
| Implementation mode | mandatory once adopted |
| Costs to be borne by | subscribing governments |

Please see Options...., Packet 2, pp. GD1-GD11 for full draft.

## TAX DISINCENTIVES TO RESTRAIN THE USE OF ENVIRONMENTALLY HAZARDOUS TECHNOLOGIES

Tax disincentives on the use of polluting or hazardous technologies is a fiscal policy instrument with a direct impact on use of technologies in developed and developing countries. By increasing production costs, they make existing processes economically less efficient and profitable. Consequently, they provide incentives for substituting hazardous technologies and products for environmentally sounder ones and foster the search for alternative technologies or products. Their net result is an effective barrier for environmentally unsound processes or technologies both for existing and future investments.

This option shifts the responsibility of preventing pollution and ecological degradation to every enterprise, needs minimum bureaucracy to work, and generates income that can be allocated for environmental R & D, education, and programs of technological adaptation. However, there are difficulties in terms of identifying the particular pollutant/polluter, monitoring and measurement, supervision for compliance and coordination with regional and international environmental standards and relevant tax policies. Effective implementation requires solid commitment, sophisticated measurement and monitoring systems and substantial cooperation through bilateral and regional arrangements. The technical expertise available in the data-banks of international environmental organizations as well as financial and advisory services of international investment and development organizations, especially in the transition period will be necessary.

Tabular Summary

| | |
|---|---|
| Type of instrument | national legislation |
| Type of adoption | voluntary |
| Applicability | national |
| Implementing agency | national agency |
| Implementation mode | mandatory |
| Costs to be borne by | national governments/ (TNCs dealing with hazardous technologies) |

Please see Options...., Packet 1, pp. GD1-GD8 for full draft.

## CREATING TARIFF INCENTIVES FOR TRANSFER AND USE OF ENVIRONMENTALLY SOUND TECHNOLOGIES IN DEVELOPING COUNTRIES

Also known as trade liberalization, lower tariffs can be considered not only for objectives of a purely economic and/or political nature but also for environmental objectives. Under a system of liberalized tariffs, an importing developing country would waive or substantially reduce import tariffs to those firms (including TNCs and their subsidiaries) importing or using environmentally sound technologies in their local operations.

The system gives a political commitment message, is cost-effective, and creates incentives to transfer, use and further develop environmentally sound technologies as the latter becomes competitive with unsound technologies. However, the more established the sector using hazardous technologies is the more resistance to tariff system changes within the country should be expected. National opposition to lower tariffs may be even stronger if the result enables a foreign firm to undercut local firms.

Reductions in tariffs can be undertaken successfully only in the context of regional and international trading patterns, arrangements and negotiations. Furthermore, they need to be justifiable on an economic basis by the implementing government, and need to be integrated with other import restrictions in order not to cancel out the benefits from lower tariffs on sound technologies.

Participation of transnational corporations and international organizations in the tariff reduction process, especially when such a system is intended for regional or international scope, is essential. Existing regional trade associations as well as international investment and trade institutions provide helpful fora for the success of the process.

Tabular Summary

| | |
|---|---|
| Type of instrument | bilateral, regional or multilateral tariff legislation |
| Type of adoption | voluntary |
| Applicability | bilateral/ regional/ multilateral |
| Implementing agency | governments/ intergovernmental regional or multilateral organizations |
| Implementation mode | mandatory once adopted |
| Costs to be borne by | subscribing governments |

Please see Options...., Packet 2, pp. GD13-GD23 for full draft.

## CREATING TARIFF BARRIERS TO REDUCE TRADE IN ENVIRONMENTALLY HAZARDOUS TECHNOLOGIES

Creating tariff barriers to transfer of hazardous technologies reduces their availability which may then induce affected businesses to either choose technologies from among existing sound versions or to increase their efforts to develop new and sounder substitutes. As an import tax, tariff barriers can be based on a fixed rate per unit of import or on a variable rate based on the value of the import.

Tariff barriers decrease consumption of hazardous technologies both in the importing and the exporting country ends as production or use of these technologies become costly. In addition, the tariffed technology may assume higher prices especially during the adjustment period when affected companies would be in the process of seeking for sounder replacements. The higher prices will have a positive substitution effect (based on cross-elasticity) increasing R&D, production and marketing of sounder technologies. Among the disadvantages of tariff disincentives are setting the technological and environmental standards, assuring compliance, determining the optimal level of the tariff and availability of substitutable alternative technologies.

Effective implementation will require solid scientific information to base public policy, regional and national cooperation and expenditures into research and development to increase the inventory of sound technological substitutes. Regional trade agreements, regional and international trade, environment and development organizations as well as the GATT could provide the necessary avenues for negotiating creation of tariff barriers to hazardous technologies.

Tabular Summary

| | |
|---|---|
| Type of instrument | financial regulation at national, bilateral, regional or international levels |
| Type of adoption | voluntary |
| Applicability | national/bilateral/regional/international |
| Implementing agency | national governments/ regional or international organizations |
| Implementation mode | mandatory |
| Costs to be borne by | national governments/ (TNCs dealing with hazardous technologies) |

Please see Options...., Packet 1, pp. GD9-GD20 for full draft.

# TRANSNATIONAL CORPORATIONS AND SUSTAINABLE DEVELOPMENT: RECOMMENDATIONS OF THE EXECUTIVE DIRECTOR

*The Centre on Transnational Corporations within the Transnational Corporations and Management Division of the Department of Economic and Social Development, has been involved in normative work pertaining to transnational corporations and sustainable develoment since 1989. In 1990, the Centre developed and published the Criteria for Sustainable Development Management. The Criteria was well received by the business community, governments, environmental groups and the academia. In 1991, the Centre continued its normative activities by developing a set of recommendations on the involvement of transnational corporations in Agenda 21 for the United Nations Conference on Environment and Development (UNCED). "The Executive Director's Recommendations" was presented in a 50 page report to the Fourth Session of the Preparatory Committee for UNCED held in New York. This paper is a summary of this report.*

## SUMMARY OF THE EXECUTIVE DIRECTORS RECOMMENDATIONS

The challenge of environmentally sustainable economic development calls for new and effective partnerships among all the economic and political actors, including Governments, businesses and international organizations. In the context of this partnership, the specific roles and responsibilities of transnational corporations ensue from their unique management aspects, the breadth of their corporate networks, the range of their technological resources and the international consequences of their decision-making. Directing such a range of capabilities towards environmental protection and economic development could make a substantial contribution to sustainable development.

A number of corporations have already taken steps in this direction. The activities of these pioneers demonstrate that environmental and economic excellence are compatible. Their activities clearly show, for example, that resource recovery and recycling produce both an environmentally desirable and an economically beneficial outcome; that durable and energy-efficient products not only make good economic sense but are also requisites for good environmental management. Macroeconomic data also show that environmental leadership and competitive advantage are closely linked: the market leaders in new technologies are firms from home countries which have strong regulatory standards; within countries, firms operating in sectors with high environmental costs have strengthened their international trade performance. Within these emerging experiences, both market forces and national environmental regulation play a key role.

Notwithstanding the positive trend towards corporate-wide environmental awareness, the potential of corporations to contribute to sustainable development is far from being fully realized. Recent surveys indicate that many basic areas of environmental management remain unaddressed and that the contribution of corporations to the greater transfer and use of environmentally sound technologies, for example, can be increased with adequate market incentives, and more uniform environmental rules and standards.

Inspired by these trends the Economic and Social Council adopted resolution 1991/55 of 26/July/1991, in which it requested the Executive Director of the United Nations Centre on Transnational Corporations (now the Transnational Corporations and Management Division of the Department of Economic and Social Development), after extensive consultations with international business organizations and other relevant bodies, to prepare action-oriented and practicable recommendations on cooperation for protection and enhancement of the environment in all countries. Subsequently, the Preparatory Committee of the United Nations Conference on Environment and Development requested the full integration of development considerations and needs and realities, in particular of the developing countries, in all Agenda 21 programme documents, indicating in that regard, inter/alia, large industrial enterprises, including transnational corporations, business practices and environment.

Based on these requests, the Centre on Transnational Corporations proposed a chapter for UNCED's Agenda 21, dealing specificly with transnational corporations and the environment. In January 1992, the Centre presented its proposal in "The Executive Director's Recommendations". These recommendations are a catalog of suggestions on how transnational corporations, in cooperation with governments and international organizations, can contribute to sustainable development.

The recommendations are the synthesis of a wide range of existing intergovernmental resolutions, conventions and declarations, corporate policy statements and trade association guidelines, the results of the corporate environmental survey carried out by the United Nations Centre on Transnational Corporations, and guidance from expert advisers in business, academia, Governments and non-governmental organizations.

The recommendations of the Executive Director has been grouped under five key programme areas: (1) global corporate environmental management; (2) risk and hazard minimization; (3)/environmentally sounder consumption patterns; (4)/full-cost environmental accounting; and (5)/environmental conventions, standards and guidelines. The programme areas stem from themes identified by the Commission on Transnational Corporations at its seventeenth session as integral components of sustainable development.

Summaries of each of the five program areas in the Executive Directors Recommendations are given below. For the entire text, see E/C.10/1992/2.

## 1. Global corporate environmental management

Managerial leadership in the adoption of consistently high environmental policies is the key to promoting a global standard of corporate responsibility, even ahead of changes in national and international law. Managerial policies can encourage a corporate culture based upon sustainable development values. In order to institutionalize the corporate-wide environment and development policies, however, supportive corporate programmes and organizational structures are needed. Corporate efforts to integrate environment, health and safety goals into performance appraisals, organizational structure and education and training are the key to linking sustainable development with daily decision-making.

The common elements in the companies pursuing the best practices are clear corporate environmental policies, institutional structures and reporting systems for monitoring the progress made towards sustainable development. Specific objectives of this programme area are:

(a) Development of globally applicable corporate policies for the shift towards sustainable development. Achieving this objective involves the preparation of a formal, corporate-wide policy statement on the firm's commitment to sustainable development and its subsequent dissemination throughout the corporate structure, in all appropriate languages;

(b) Establishment or strengthening of global corporate environmental management systems and organizational structures in order to supervise and monitor the adjustment to a sustainably managed corporation. Major steps in establishing these systems entail the integration of environmental and developmental goals into all corporate incentive and compensation programmes and designation at each facility of senior officials responsible for environmental matters;

(c) Integration of corporate environmental concerns into the sustainable development needs of host countries. This involves the examination of the firm's impact on the environment and development needs of the host country by taking into account affiliate input in corporate decision-making;

(d) Implementation of the corporate programmes and practices required to support environmental and developmental goals in all operations throughout the world. Achieving this objective entails the adoption of a product stewardship strategy, supported by training and education programmes to increase management and employee knowledge of the corporation's sustainable development policy.

2. Risk and hazard minimization

Promoting risk minimization in all corporate functions is a requisite for furthering environmental protection and ensuring employee health and safety. In most industrialized countries, enterprises must provide notification of risk in connection with the construction and operation of facilities, the quantity of highly toxic chemicals, and spills, accidents and worker fatalities and injuries. Developing countries, however, often lack stringent environmental and worker health and safety regulations. When regulations exist, implementation and enforcement may be ineffective due to a lack of resources, training, equipment and staff. Because transnational corporations are familiar with best-practice technologies and comply with regulatory requirements in their home countries, they can make a significant positive contribution to worker health and safety, environmental protection and resource conservation on a world-wide basis. This contribution is especially valuable in countries where the regulatory regime is below the minimum acceptable standards.

Risk and hazard minimization promotes sustainable development goals through the assessment and anticipation of environmental risks, the analysis and monitoring of environmental problems, and through awareness-building (see E/C.10/1991/3, para./17/(d)). Specific

objectives of this programme area are:

(a) Conduct of environmental practices on a consistently high basis in all operations throughout the world. To fulfil this objective, corporations1can apply risk assessment and hazard analysis techniques on a corporate-wide basis and provide all operations with adequate knowledge, skills and equipment;

(b) Reduction of emissions and waste at the source through input and process change, rather than reliance on end-of-pipe treatment. Source reduction involves the monitoring of effluent emissions at all operations throughout the world, improvement of material and energy efficiency and use of environmentally sounder technologies;

(c) Phasing out or minimization of the use and export of highly hazardous processes, product and services throughout the enterprise's operations. Hazard minimization entials corporate assessment of the environmental and health consequences of the firm's activities, supported by governmental efforts to publicize priority lists of high hazard chemicals, processes and services.

3. Environmentally sounder consumption patterns

The rapid consumption of natural resources beyond nature's ability to replenish and regenerate them diminishes the quality of life throughout the world. A large volume of these resources are used unwisely. Product information regarding environmentally sounder alternatives can help to transform world consumption patterns. In the industrialized countries, eco-labelling and environmental green seals are two of the newer tools to assist consumers in making environmentally sounder choices. In developing countries and countries in transition, consumers should be able to choose products that do not place an unfair burden on their natural resource base. Corporate product development and marketing practices should incorporate these new directions.

Focusing on environmentally sounder consumption patterns enables forward-looking management to identify future markets, new products and new investments to replace environmentally degrading activities that need to be phased out. Specific objectives of this programme area are:

(a) Informing workers, distributors, retailers, consumers and communities of the actual and possible environmental effects of the firm's products and of the steps that they can take to mitigate any adverse effects. The increase of environmental information flows throughout the enterprise, development of common user information disclosure standards and provision of product safety and risk information to local communities are primary components in achieving this objective;

(b) Development and redesign of products and services for the shift towards a sustainable lifestyle. The promotion of product durability through company-wide quality control efforts and emphasis on environmental soundness in the firm's product mix help to support the

shift towards a sustainable lifestyle.

4. Full-cost environmental accounting

The failure to account for the depletion and degradation of natural resources distorts product costs and prices and leads to unsustainable production and consumption patterns. Current accounting practices report only market transactions and do not record the full cost of natural resource use. No direct costs are assigned to the consumers of common goods, such as air and water. Environmental accounting studies indicate that few corporations have adopted environmental accounting procedures. Internalizing all long-term environmental costs in the accounting and reporting process is a vital operational requirement for sustainable development. Achieving this goal requires the development of new accounting rules and financial statements. There is a need for new valuation methods for quantifying the unrecorded costs of non-sustainable development to be devised.

Governments can take supportive steps to ensure that market price signals will reflect full environmental costs. They can: adopt the "polluter pays" principle which requires the polluter to internalize the costs of pollution prevention; adopt other economic incentives, such as tradeable permits, user fees and deposit refund systems; and remove price distortions in existing governmental programmes that cause natural resources to be underpriced.

Internalizing all long-term environmental costs in the accounting process is vital to measure adequately the value of natural resources and environmental services. Specific objectives of this programme area are:

(a) Inclusion of environmental considerations in corporate accounting and reporting in order to relate an enterprise's environmental activities to its financial position and performance. Initial steps in developing environmental accounting and reporting practices involve the separation of environmental expenditure from other expenditure and measuring of the firm's environmental liabilities;

(b) Incorporation of the full environmental costs into the production of goods and services in order to send the right price signals to producers and consumers. Full environmental costing entails payment for the use of common environmental resources, removal of price distortions due to government programmes affecting land, water, energy and other natural resources, and implementation of investment and trade policies that discourage the excessive use of natural resources;

(c) Development of accounting and reporting methods in order to encompass sustainable development considerations in the calculation of financial results. Incorporating sustainable development concerns in financial calculations requires the redefinition of asset and liability boundaries to include public goods (such as air and water quality, biodiversity) and development of prototype accounts for measuring resource use.

5. Environmental conventions, standards and guidelines

To support corporate efforts in global environmental management, clear environmental conventions, standards and guidelines are required. Although an increasing number of international environmental policy declarations, resolutions, guidelines, codes of conduct and conventions have emerged, national regulations are the dominant influence on corporate environmental policy. As a result of the uneven development of environmental law, the coordination of international, regional and national policies and instruments is urgently required. Corporations are also able to play an integral role in shaping the future direction of sustainable development through the implementation of industry-agreed environmental standards and guidelines. Corporate self-regulating leadership builds an atmosphere of trust amongst all concerned parties. Self-regulation in conjunction with supportive governmental efforts is fundamental to building, between business and Government, a substantive partnership aimed at sustainable development.

Environmental conventions, standards and guidelines can help to achieve an international consensus on minimum standards of corporate environmental behaviour. Specific objectives of this programme area are:

(a) Compliance with and further development of international and regional environmental guidelines and instruments. Increasing corporate use of intergovernmental instruments involves the encouragement of consultation with business actors in the development of guidelines and standards and ensuring their availability throughout the corporate structure;

(b) Compliance with and further development of national environmental law. Achieving this objective requires governmental efforts in the establishment or strengthening a regulatory environment supportive of sustainable development and making available all appropriate national laws and regulations;

(c) Compliance with and further development of industry trade association standards and guidelines. By adopting and implementing the highest practicable industry-agreed guidelines and developing accountability standards for such guidelines, corporations can demonstrate self-regulatory leadership.

The Centre on Transnational Corporations within the Transnational Corporations and Management Division of the United Nations Department of Economic and Social Development, conducts research and technical assistance to developing countries on matters pertaining to foreign direct investment and activities of transnational corporations. In 1989, the Centre was requested by the Economic and Social Council to carry out work on transnational corporations and environmental protection in developing countries. The enclosed material reflects some of the work in response to this and subsequent requests by the Economic and Social Council and the General Assembly.

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